

REMARKS ARGUMENTS:

Present claims 3 and 4 correspond to claims 9 and 11, respectively, of the parent application, with claim 9 being rewritten to more clearly define the invention. Claim 3 recites that the cutting tool functions by "attacking in the radial direction," as described in the specification at page 2, line 15. In order to establish antecedent basis for "the radial direction," the limitation "a periphery" in claim 9 is modified by claim 3 to read "a radial periphery."

Present claims 5-8 are "*method-of-use*" claims. That is, claims 5-8 define a "method of using the rotating cutter head of claim 17." Broadly, as defined in claim 19, the presently claimed method involves working the surface of an elastomer by applying the rotating cutting head to the surface, at a maximum of 3000 rpm, with the speed at the periphery of the cutter head being 10 to 100 meters/second. Claims 6, 7, and 8 contain the limitations that were recited in parent method claims 14, 15, and 16, respectively. In that the presently claimed method is limited, exclusively, to use of the cutter head as defined in present claim 3, the cutter-head claims and the method claims are properly joined in the same application.

The rejection under 35 USC 112, ¶2, in the parent is rendered moot by the instant amendment, in that "at least six" does not appear in the instant claims.

The cutter-head claims (claims 9-11) in the parent application were rejected under 35 USC 103(a) as allegedly being unpatentable over Johnson in view of Proulx. Reconsideration is requested as the rejection under §103(a) is inapplicable against the claims presented, hereby, i.e., the cited references fail to support a prima facie case of obviousness with respect to the present claims.

According to the statement of rejection, "Johnson discloses the invention substantially as claimed" (Office Action page 2), i.e., Johnson allegedly meets all but one feature of the rejected claims, the missing feature being (*emphasis added*)

characterized in that the *number* of said indexable inserts or annular cutting tools on the periphery of said disk is 10-30.

The missing feature is allegedly "taught by Proulx" and would have been an allegedly obvious modification to one skilled in the art motivated "in order to increase the cutting effect" of Johnson's

device (parent application final Office Action pages 3-4). In making these allegations the statement of rejection assumes facts that are not of record, incorrectly interprets the teachings of the cited references, and applies incorrect (and arbitrary) standards for evaluating prior art in an analysis of claims under §103(a).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). A "ground of rejection is simply inadequate on its face . . . [when] the cited references do not support each limitation of [the] claim." *In re Thrift*, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002). When conducting an obviousness analysis, "all limitations of a claim must be considered in determining the claimed subject matter as is referred to in 35 U.S.C. 103 and it is error to ignore specific limitations distinguishing over the [prior art] reference." *Ex parte Murphy*, 217 USPQ 479, 481 (PO Bd. App. 1982). When the claimed invention requires modification of the prior art, there is no obviousness under §103 when "[t]he prior art does not suggest . . . modification of the . . . [prior art], or provide any reason or motivation to make the modification." *In re Laskowski*, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989).

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious *unless the prior art suggested the desirability of the modification*.

In re Fritch, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992) (*emphasis added*).

In connection with present "method" claims 5-8, the §103(a) rejection cannot be applied as "the cited references do not support each limitation of [the] claim." *Thrift*, 63 USPQ2d at 2008. The method claims contain the limitation "applying the rotating cutter head to the *elastomer* surface" (*emphasis added*). Neither Johnson or Proulx, taken alone or together, teaches or suggests cutting an *elastomer*.

Johnson's device is a "*milling tool*," used for *face milling*, e.g., cast iron (Johnson col. 1, lines 8-9). Proulx discloses an indexable cut-off saw (Proulx col. 1, lines 7-9) for cutting "metals" (Proulx Abstract). Neither reference mentions anything whatsoever about cutting an *elastomer*.

The rejection relies on references that teach the use of cutting means in order to cut metal, not elastomers. Accordingly, since neither Johnson nor Proulx, taken alone or together, teaches or suggests cutting an *elastomer*, the cited references fail to support each limitation of the present method claims and, so, rejection of the present method claims under § 103(a) based on Johnson in view of Proulx would be "inadequate on its face." *Thrift*, 63 USPQ 2nd at 2008.

Moreover, neither of the cited references, taken alone or together, teaches or suggests cutting the elastomer using a rotating cutter head that is rotating "with a cutting speed" at the periphery of the cutter head at up to "10 to 100 meters/seconds." Such a rejection of the present claims would, also, be inadequate on its face, *Thrift, supra*, because neither of the cited references, taken alone or in combination, teaches or suggests using periphery cutting speeds in the range of 10 to 100 meters/second.

No rotating cutter speed is disclosed, at all, in Johnson. Although Johnson discloses cutting tools having a large diameter, it does not disclose cutting speeds in the range of 10 to 100 meters/second. Proulx's indexable cut-off saw has a diameter of 12 inch (= 305 mm), but it is operated at 95 rpm, which corresponds to a cutting speed at the periphery of about 1.5 meters/second.

In connection with the periphery cutting speeds, the statement of rejection alleges that it would have been obvious to obtain such a periphery cutting speed "*if we set the r.p.m. to 3000*" (parent application, final Office Action, page 3) (*emphasis added*). The fatal flaw in this reasoning is that it merely begs the question; that is, the rejection fails to indicate where in the prior art there is found motivation to increase the periphery cutting speed disclosed in Johnson. When "the examiner's comments regarding obviousness amount to an assertion that "one of ordinary skill in the relevant art would have been able to arrive at [the claimed] invention because he had the necessary skills to carry out the requisite process steps[,] [t]his is an inappropriate standard for obviousness." *Ex parte Levengood*, 28 USPQ2d 1300, 1301 (BPA&I 1993). "That which is within

the capabilities of one skilled in the art is not synonymous with obviousness [citations omitted]."

Levengood, 28 USPQ2d at 1302. As held by the Court of Appeal for the Federal Circuit:

We have previously rejected the argument that undirected skill of one in the pertinent art is an adequate substitute for statutory prior art [citation omitted].

In re Kratz, 201 USPQ 71, 76 (CCPA 1979).

In connection with present *device*, i.e., "rotating cutter head," claims 3 and 4, the §103(a) rejection (in the final Office Action of the parent application) cannot be applied because the rejection fails to identify the requisite motivation *in the prior art* for combining the cited references needed to establish obviousness under §103(a).

When the

USPTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears *in the reference*.

In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (*emphasis added*). "It is facts which must support the legal conclusion of obviousness." *Ex parte Crissy*, 201 USPQ 689, 695 (POBdApp 1976).

The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because *it may doubt* that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis.

In re Warner, 154 USPQ 173, 178 (CCPA 1967) (*emphasis in original*). An argument by the USPTO is "not prior art." *Rijckaert*, 28 USPQ2d at 1957.

When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. . . There must be something *in the prior art* to suggest the desirability, and thus the obviousness, of making the combination." [Citation omitted.]

Interconnect Planning Corp. v. Feil, 227 USPQ 543 (Fed. Cir. 1985) (*emphasis added*).

The rejection under §103(a) cannot be applied against the present claims because the rejection fails to show *where* the alleged motivation ("in order to increase the cutting effect") is disclosed *in the prior art*, which is a prerequisite to establishing obviousness under §103(a). *Rijckaert, supra. Interconnect Planning Corp., supra.* Since there is no apparent disclosure of the alleged motivation in either cited reference, and since the statement of rejection fails to otherwise identify the *prior art source* of the alleged motivation, reliance on the alleged motivation to combine Johnson and Proulx is, in effect, reconstruction of the presently claimed invention from the cited references using proscribed hindsight. "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

Furthermore, the statement of rejection takes disclosure from each of the cited references out of context, i.e., it fails to take into consideration the teachings of each reference as a whole. The totality of each reference's teachings must be considered when combining those teachings with the rest of the prior art. *W. L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 311 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciate of what such reference fairly suggests to one of ordinary skill in the art.

In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986). When the teachings of each of Johnson and Proulx are taken *as a whole*, it is readily appreciated how one skilled in the art would *not* have considered it obvious to combine the references as alleged in the statement of rejection.

First of all, the "cutting effect" of Johnson's device is entirely different from the cutting effect of Proulx's device. Johnson's device is a "*milling tool*" used for *face milling*, whereas Proulx's device is a "cut-off saw" for sawing through a piece of metal.

The purpose of the milling tool in Johnson is to perform *face milling*. As taught by Johnson (col. 2, line 61 - col. 3, line 3) (*emphasis added*):

Face milling involves *removing a layer of material* from a work piece *to provide a plane surface*. During milling, the cutter body 20 [Fig. 1] is advanced *horizontally* so that the inserts successively engage the top of the work piece at the desired depth. During such milling, the work [piece] may be described as having three separate surfaces, illustrated in FIG. 7: a generally horizontal, generally planar uncut surface 24; and inclined cut surface 26; and a cut surface 28 [,] which is in a plane perpendicular to the cutter axis, i.e., horizontal as illustrated, and parallel to the uncut surface 24.

Proulx, on the other hand, is not concerned with planing a metal surface, i.e., removing a layer of material to yield a plane surface.

The *saw* of Proulx is "of the type used in the automotive industry for cutting metal components [,] e.g. [,]cutting a bearing cap cluster into separate caps" (Proulx, col. 1, lines 7-10). In other words, as its name implies, the "saw" of Proulx functions by sawing through a piece of metal, for example, to separate a single piece of metal into a plurality of metal pieces.

The different functions of the face-milling tool of Johnson, on the one hand, and the cut-off saw of Proulx on the other, does not merely involve the manner in which each is used. On the contrary, the different functions require different *structural* features.

For example, the indexable insert of Johnson provides a *straight* cutting edge. As shown in Fig. 1, a rectangularly shaped block 42 has eight, *straight* cutting edges 36 (Johnson column 3, lines 50-52, and column 4, lines 1-18). As shown in Figs. 5 and 6, this straight cutting edge lies in a plane perpendicular to the plane of the annular cutting body 20, in which the insert is mounted (Johnson column 2, lines 44-47).

Proulx discloses three types of cutting insert in two embodiments of its cut-off saw; one embodiment being illustrated in Figures 1-3, and the other embodiment being illustrated in Figures 5-6. Both embodiments use two of the three different types of cutting insert, alternatively arranged around the periphery of cylindrical cutter disk. One type of cutting insert is the same in both embodiments, i.e., elements 14a and 14b. The second type of cutting insert in the first embodiment

is circular cutter disk 15, and the second type of cutting insert in the second embodiment is round central cutter 27.

Cutting inserts 14a and 14b have straight cutting edges, which lie in a plane parallel to the plane of the circular tool body portion 10, as illustrated in Figures 2 and 5. Circular cutter disk 15 has a crescent-shaped, curved cutting edge, which lies in a plane perpendicular to the plane of the tool body portion 10, as illustrated in Figures 2 and 3. The round central cutter 27, also, has a crescent-shaped cutting edge, which lies in a plane perpendicular to the plane of the circular tool body portion 10, as illustrated in Figures 5 and 6.

Accordingly, the face-milling apparatus of Johnson and the cut-off saw of Proulx are structurally different in a manner that serves their different functions; whereas, the face milling apparatus of Johnson provides a straight cutting edge, which lies in a plane perpendicular to the plane of the wheel on which the insert is mounted, the cut-off saw of Johnson does not, i.e., the Johnson saw has a straight cutting edge, but it lies in a plane parallel to the plane of the revolving cutter wheel, and the Johnson cut-off saw has a cutting edge, which lies in a plane perpendicular to the plane of the revolving cutting wheel, but the edge is crescent-shaped, not straight. As such, the functional differences of the Johnson and Proulx devices - 1 being a face milling apparatus and the other being a cut-off saw - is evidenced by correspondingly different structures.

Nothing in the record of the parent application supports the finding that the skilled artisan would have looked to the teachings of a *cut-off saw*, as disclosed in Proulx, in order to improve the *face milling cutter* disclosed in Johnson. In other words, there is nothing in Proulx, which concerns a "cut-off saw" used for *cutting through* a piece of metal, that would have motivated one skilled in the art to modify "face milling cutter" used for *peeling off layers* from a metal work-piece and leaving behind a *smooth, even metal surface*, as disclosed in Johnson. Johnson achieves a different purpose and uses a different structure than the cut-off saw disclosed in Proulx. Accordingly, the §103(a) rejection cannot be applied against the present device claims.

Further in connection with the present device claims, they are limited to a cutter head "for working the surface of elastomers." As explained, above, nothing in either Johnson or Proulx, taken alone or together, teaches or suggests anything whatsoever about a cutting head that is *useful for the working of elastomers*, which utility is a requirement, i.e., limitation, of the presently claimed device.

A preamble limitation on *use* encompasses *material limits on claim scope* in addition to the limitations recited in the body of the claim. *Corning Glass Works v. Sumitomo Electric U.S.A., Inc.*, 9 USPQ2d 1962 (Fed. Cir. 1989). The recitation of purpose in a claim preamble can limit the claim so as to define over the prior art. *In re Stencel*, 4 USPQ2d 1071 (Fed. Cir. 1987). When the "purpose is included in the claims it serves as a limitation on the claimed invention and should be met literally or equivalently" by the prior art. *See, Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc.*, 40 USPQ2d 1481, 1489 (Fed. Cir. 1996).

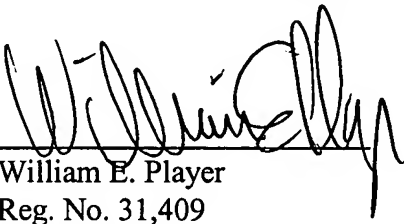
Since the limitation on use recited in present device claims 3 and 4 is not met "literally or equivalently by the prior art" relied on in the rejection under §103(a), the rejection cannot be applied against present claims 3 and 4.

Favorable action is requested.

Respectfully submitted,

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